

**PREFACE****Sleep Physiology and Circadian Clock
are Inseparable****Ken-ichi HONMA***Editor of Sleep and Biological Rhythms (SBR), and Professor and Chairperson, Department of Physiology, Hokkaido University Graduate School of Medicine, Sapporo, Japan*

In the past 3 years, *Sleep and Biological Rhythms* (SBR) has made remarkable advances in several aspects. The quality of the journal has extensively increased. The rejection rate of submitted papers is one of the parameters important for the evaluation of the overall quality of the journal. From April 2007 to May 2009, we evaluated 105 submitted papers. Among them, 44 were finally rejected. The rejection rate is 41.9%, which is to my knowledge a relatively high rate for such an academic publication. We expect the first Impact Factor (Thomson Reuters Co.) for SBR in June 2010. The journal has become more international in the past few years. The nationality of authors submitting to SBR expanded in 2008 (17 nationalities) compared with 2006 (six nationalities). SBR is an official journal of the Asian Sleep Research Society. We are planning to distribute SBR to all nations in Asia and Oceania. The subscription number increased by 23% in 2008 as compared with that in 2006. Furthermore, we decided to introduce the online system for SBR publication from Volume 8, which is expected to simplify access to this journal.

Sleep and biological rhythms are now well recognized as two of the most important health issues not only among the elderly but also among the young. Epidemiological research reveals a close relationship between

sleep/biological rhythm disorders and depression, diabetes mellitus, or hypertension. However, we are completely ignorant of the causal relationship and pathogeneses between them. These areas in sleep/biological rhythm research are now growing in the clinical sciences. Sleep is still a mystery in neuroscience. Molecular manipulation of certain gene products occasionally change the sleep pattern or sleep length. There is more than one possible mechanism which alters these parameters. For example, in the field of biological rhythm research there is a long standing hypothesis called a two oscillator hypothesis which explains the length of activity band or sleep in nocturnal rodent. The onset of activity (end of sleep) is regulated by one circadian oscillator and the end of activity (onset of sleep) is controlled by the other. The coupling of two circadian oscillators determines the length of activity or sleep. The activity (sleep) length is well known to change according to the season or photoperiod. Recently, two distinct circadian oscillators were found in the suprachiasmatic nucleus, the center of biological clock in mammals, whose coupling is dependent on photoperiods. Thus, sleep physiology and the circadian clock are inseparable.

We welcome the submission of clock-related papers as well as those related to sleep.